

CLAIMS

1. A transformed CC genome comprising an exogenous transparent seed coat gene obtained from an AA genome.
2. A transformed CC genome according to claim 1 wherein the AA genome is an AA genome obtained from any one of *Brassica campestris*, *Brassica napus* and *Brassica juncea*, preferably from *Brassica campestris*.
3. A transformed CC genome according to claim 1 or claim 2 wherein the transformed CC genome is a transformed *Brassica napus* CC genome.
4. A transformed plant, plant cell or plant tissue comprising an exogenous transparent seed coat gene.
5. A transformed plant, plant cell or plant tissue comprising an exogenous transparent seed coat gene obtained from an AA genome.
6. A transformed plant, plant cell or plant tissue according to claim 5 wherein the AA genome is obtained from any one of *Brassica campestris*, *Brassica napus* and *Brassica juncea*, preferably from *Brassica campestris*.
7. A transformed plant, plant cell or plant tissue according to any one of claims 4-6 wherein the transformed plant, plant cell or plant tissue is a transformed *Brassica* plant, plant cell or plant tissue.
8. A transformed plant, plant cell or plant tissue according to claim 7 wherein the transformed plant, plant cell or plant tissue is a transformed *Brassica napus* plant, plant cell or plant tissue.
9. A transformed plant, plant cell or plant tissue according to any one of claims 4-8 wherein the transformed plant, plant cell or plant tissue is capable of yielding seeds with a

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transparent seed coat or is capable of yielding plants having seeds with a transparent seed coat.

10. A transformed plant according to any one of claims 4-9 wherein the transformed
5 plant is non-sterile.

11. A yellow seed comprising a transparent seed coat gene as defined in claim 1 or claim 2 and preferably any one combination of:

(i) zero erucic acid or a low level of erucic acid or a medium level of erucic acid or a high level of erucic acid; and

(ii) zero glucosinolate(s) or a low level of glucosinolate(s) or a medium level of glucosinolate(s) or a high level of glucosinolate(s).

12. A yellow seed according to claim 11 wherein the seed is a transformed *Brassica*
15 *napus* yellow seed having a low level of erucic fatty acid and a low level of
glucosinolate(s).

13. A yellow seed according to claim 11 wherein the yellow seed is a transformed *Brassica napus* yellow seed having a medium level of erucic fatty acid and a high level of glucosinolate(s).

14. A yellow seed according to any one of claims 11-13 wherein the seed has an increased level of seed oil and protein compared to the seed oil and protein level in a black seed or a brown seed.

15. A yellow seed according to any one of claims 11-14 wherein the yellow seed has an oil and protein content of at least about 70% seed dry matter.

16. A yellow seed according to any one of claims 11-14 wherein the seed has a
30 decreased level of seed fibre compared to the seed fibre level in a black seed or a brown
seed.

17. A yellow seed according to claim 16 wherein the seed has a fibre content of not more than about 8% oil free meal.
18. Use of a yellow seed according to any one of claims 11-17 to prepare a seed oil or a seed meal.
19. A seed oil or a seed meal produced from the yellow seeds according to any one of claims 11-17.
20. A method for increasing the levels of seed oil and protein and reducing the levels of fibre in a seed wherein the method comprises: transferring the transparent seed coat gene of an AA genome of a first *Brassica* plant, plant tissue or plant cell into a CC genome of a second *Brassica* plant, plant tissue or plant cell.
21. A method according to claim 20 wherein the AA genome is obtained from any one of *Brassica campestris*, *Brassica napus* and *Brassica juncea*, preferably from *Brassica campestris*.
22. A method according to claim 20 or claim 21 wherein the CC genome is a *Brassica napus* CC genome.
23. A method according to any one of claims 20-22 wherein the seed has an increased level of seed oil and protein compared to the seed oil and protein level in a black or a brown seed.
24. A method according to any one of claims 20-23 wherein the seed has an oil and protein content of at least about 70% seed dry matter.
25. A method according to any one of claims 20-24 wherein the seed has a decreased level of seed fibre compared to the seed fibre level in a black or a brown seed.

26. A method according to any one of claims 20-25 wherein the seed has a fibre content of not more than about 8 % oil free meal.
27. A transformed *Brassica napus* plant capable of yielding seeds with a transparent seed coat.
28. A seed oil or a seed meal comprising an oil and protein content of at least about 70% seed dry matter and a fibre content of not more than about 8 % oil free meal.
29. Use of an AA genome as a vector for delivery of one or more genes of interest to a heterologous genome.
30. Use according to claim 29 wherein the AA genome is obtained from any one of *Brassica campestris*, *Brassica napus* and *Brassica juncea*, preferably from *Brassica campestris*.
31. Use according to claim 29 or claim 30 wherein the CC genome is a *Brassica napus* CC genome.
32. A transparent seed coat encoded by a transparent seed coat gene obtainable from NCIMB 40991 and/or NCIMB 40992.
33. A transparent seed coat.
34. A transformed *Brassica* genome comprising an exogenous transparent seed coat gene.
35. A transformed *Brassica napus* plant wherein the *Brassica napus* comprises a transparent seed coat gene obtained from the AA genome of *Brassica* as described herein and with reference to the accompanying Figures.

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